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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,071	12/30/2003	Jennifer Dean	145581-1	7947

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EXAMINER
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AN, SANG WOOK

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/749,071

Applicant(s)

DEAN ET AL.

Examiner

Sang W. An

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/4/04, 6/20/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-7 and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parthasarathy et al (6225391) in view of Aral et al (20050158537).

Regarding claim 1, Parthasarathy et al teach a method for making a fog resistant thermoplastic article, comprising: exposing a thermoplastic polymer article to an aqueous environment sufficient to result in a fog resistant thermoplastic polymer article, wherein the fog resistant thermoplastic polymer article has a greater fog resistance when compared to the thermoplastic polymer article prior to exposing (col 7 lines 1-15). However, Parthasarathy et al do not explicitly teach that the thermoplastic is aromatic. Nevertheless, Aral et al do teach using aromatic polymer film as a base resin for anti-fogging additive (par 0006). Therefore it would have been obvious to one of ordinary

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skill in the art at the time of invention to use the teachings of Aral et al in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to obtain desired material property.

Regarding claim 2, Parthasarathy et al teach exposing comprises exposing to steam, exposing to water vapor, immersing in water, spraying with water, misting with water, or combinations comprising at least one of the foregoing (col 7 line 6).

Regarding claim 3, Parthasarathy et al teach exposing is performed for greater than or equal to about 20 minutes (col 9 lines 29-34).

Regarding claim 4, Parthasarathy et al teach exposing is performed for greater than or equal to about 45 minutes (col 9 lines 29-34).

Regarding claims 5 and 6, Parthasarathy et al does not teach that the aromatic thermoplastic polymer article comprises a composition comprising aromatic polycarbonate, polyphenylene ether, aromatic polyester, polyphenylene ether/styrene blend, aromatic polyamide, polyethylene terephthalate, blends thereof, or a combination comprising at least one of the foregoing polymers and comprises polycarbonate, an aromatic polycarbonate, a (co)polyestercarbonate, an aromatic (co)polyestercarbonate, blends thereof, or a combination comprising at least one of the foregoing polymers. . However Aral et al teach weather-resistant polycarbonate which is aromatic in nature (par 0008). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Aral et al in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to obtain desired material property.

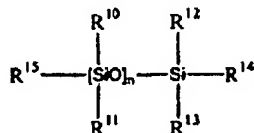
Regarding claim 7, Parthasarathy et al teach adding an ionic or non-ionic anti-fog additive (col 9 line 29-31).

Regarding claim 11, Parthasarathy et al teach the ionic or non-ionic anti-fog additive is present in an amount of about 0.1 to about 10 weight percent based on the total weight of the composition (col 9 line 37).

Regarding claim 12, Parthasarathy et al teach that the non-ionic anti-fog additive is a polysiloxane-polyether copolymer, a poly(propylene glycol)-poly(ethylene glycol)-poly(propylene glycol), or a poly(ethylene glycol)-poly(propylene glycol)-poly(ethylene glycol) (col 2 lines 21-22).

Regarding claim 13, Parthasarathy et al teach that the polysiloxane-polyether copolymer comprises a backbone of a methyl-substituted siloxane, phenyl-substituted siloxane, random copolymer of methyl and phenyl substituted siloxane, block copolymer of methyl and phenyl substituted siloxane, branched polymer of methyl and phenyl substituted siloxane, or star polymer of methyl and phenyl substituted siloxane; and wherein polyether is bonded to one or more ends of the siloxane backbone, grafted onto the siloxane, or both (column 3).

Regarding claim 14, Parthasarathy et al teach that the polysiloxane-polyether copolymer is according to the formula



wherein n is about 3 to about 5000; and R<sup>10</sup>, R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup> are each independently hydrogen, a C<sub>1</sub>-C<sub>20</sub> alkyl group, a C<sub>6</sub>-C<sub>12</sub> aryl group, a (C<sub>1</sub>-C<sub>20</sub>

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alkyl)C<sub>6</sub>-C<sub>12</sub> aryl group, a (C<sub>6</sub>-C<sub>12</sub> aryl)C<sub>1</sub>-C<sub>20</sub> alkyl group, a C<sub>1</sub>-C<sub>20</sub> alkoxy, or polyether group, with the proviso that at least one of R<sub>10</sub>, R<sub>11</sub>, R<sub>12</sub>, R<sub>13</sub>, R<sub>14</sub>, or R<sub>15</sub> is a polyether group (column 3).

Regarding claim 15, Parthasarathy et al teach that the fog resistant aromatic thermoplastic polymer article is free of an anti-fog coating (col 2 lines 19-24).

Regarding claim 16, Parthasarathy et al teach a method for making a fog resistant thermoplastic article, comprising: blending an thermoplastic polymer and an ionic or a non-ionic anti- fog additive to form a blend; molding the blend to form a thermoplastic article; and exposing the thermoplastic article to an aqueous environment sufficient to provide a fog resistant thermoplastic article having an increase in fog resistance as compared to the thermoplastic article prior to exposing (col 7 lines 1-15). However, Parthasarathy et al do not explicitly teach that the thermoplastic is aromatic. Nevertheless, Aral et al do teach using aromatic polymer film as a base resin for anti-fogging additive (par 0006). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Aral et al in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to obtain desired material property.

Regarding claim 17, Parthasarathy et al teach a method for making a fog resistant thermoplastic article, comprising: exposing a thermoplastic article to an aqueous environment sufficient to result in a fog resistant thermoplastic article, wherein the fog resistant thermoplastic article has a greater fog resistance when compared to the thermoplastic article prior to exposing (col 7 lines 1-15) and an ionic or non-ionic

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anti-fog additive incorporated into the thermoplastic. However, Parthasarathy et al do not teach that the thermoplastic article comprises a composition comprising polycarbonate, an aromatic polycarbonate, a (co)polyestercarbonate, an aromatic (co)polyestercarbonate, blends thereof, or a combination comprising at least one of the foregoing polymers. However Aral et al teach weather-resistant polycarbonate which is aromatic in nature (par 0008). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Aral et al in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to obtain desired material property.

Regarding claim 18, see claim 1 rejection.

Regarding claim 19, see claim 16 rejection.

Regarding claim 20, see claim 17 rejection.

4. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parthasarathy et al (6225391) in view of Aral et al (20050158537) further in view Govindan (5187214).

Regarding claim 8, Parthasarathy et al do not teach the ionic anti-fog additive is a sulfonic acid salt. However Govindan teaches sulfonic acid salt as an additive to polycarbonate (col 3 (II)). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Govindan in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to reduce the build up of static charges (col 1 lines 61-65) in view of Aral et al.

Regarding claim 9, Parthasarathy et al do not teach the limitations of claim 9. However Govindan teaches sulfonic acid salt as an additive to polycarbonate (col 3 (II)). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Govindan in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to reduce the build up of static charges (col 1 lines 61-65) in view of Aral et al.

Regarding claim 10, Parthasarathy et al do not teach that the sulfonic acid salt is a tetraalkyl ammonium salt of a sulfonic acid, a trialkyl(hydroxyalkyl) ammonium salt of a sulfonic acid, tetraalkyl phosphonium salt of a sulfonic acid, a trialkyl(hydroxyalkyl) phosphonium salt of a sulfonic acid, or combinations comprising at least one of the foregoing sulfonic acid salts.. However Govindan teaches sulfonic acid salt as an additive to polycarbonate (col 3 (II)). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Govindan in Parthasarathy et al's method for making a fog resistant thermoplastic article in order to reduce the build up of static charges (col 1 lines 61-65) in view of Aral et al.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang W. An whose telephone number is (571) 272-1997. The examiner can normally be reached on Mon-Fri 7 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone




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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sang Wook An  
Patent Examiner  
Art Unit 1732  
March 8, 2006



**MICHAEL P. COLAIANNI**  
**SUPERVISORY PATENT EXAMINER**